

1.312 AMENDMENT

Serial No. 09/316,580

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Attorney Docket No. 125.064US05

Title: BONDED WAFER WITH METAL SILICIDATION

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims:

Claims 1-3 and 7-9

1. A silicon-on-insulator integrated circuit, comprising:
 - (a) a handle die;
 - (b) a substantially continuous silicide layer over said handle die,
 - (c) a substantially continuous first dielectric layer overlying one side of said silicide layer;
 - (d) a device silicon layer overlying said first dielectric layer, said device silicon layer having an upper surface;
 - (e) a second dielectric layer on said handle die underlying the opposite side of said silicide layer; and
 - (f) interconnected transistors in and at the upper surface of said device silicon layer.
2. The integrated circuit of claim 1 wherein said silicide layer comprises a diffusion barrier to impurities.
3. The integrated circuit of claim 1 further comprising:
 - (g) trenches extending through said device silicon layer and separating said device silicon layer into islands.
- 4-6. (Cancelled)

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7. A silicon-on insulator integrated circuit comprising:
- (a) a handle die;
 - (b) a first dielectric layer formed on said handle die
 - (c) a substantially continuous silicide layer formed on said first dielectric layer, said silicide layer having a controlled resistance and providing a diffusion barrier to impurities;
 - (d) a substantially continuous second dielectric layer and silicide layer and separating said device silicon layer into islands each with an underlying continuous silicide area; and
 - (e) trenches extending through said device silicon layer and silicide layer and separating said device silicon layer into islands each with an underlying continuous silicide area; and
 - (f) interconnected transistors in and at an upper surface of said device silicon layer.
8. The integrated circuit of claim 7 further comprising:
- (g) trenches extending through at least one of said islands to said underlying silicide area, said trenches having dielectric sidewalls and containing conductive material in contact with said silicide area.
9. The integrated circuit of claim 8 wherein said islands have a thickness no greater than about 2 μm , and said conductive material is tungsten.
- 10-22. (Cancelled)